Construction Monitoring Matrix

Variables	Techniques	Duration	Seasonal	Purpose
Regional (Environmental Factors & Geographic)				
Abundance				
Migrants General (Species, Age, etc.)	NEXRAD, Observations Ship & Aerial	Minimum 2 years* Minimum 2 years*	Seasonally Appropriate	Regional perspective on behavior and populations, Modeling
Behavioral (Guilds & Species) Flight Pathways Feeding, roosting, staging, breeding Flight Altitude	Ship & Aerial Telemetry & Radar Radar Radar & other Technologies	Minimum 2 years*	4 season	Habitat use, Avian Risk Assessment, Modeling
Physical data Atmospheric Conditions (**Visibility**) Oceanographic Conditions Resources (Prey)	Existing databases Field Collection (Species specific)	Minimum 2 years*	4 Seasons	Habitat characterization, Correlation with Bird Use Modeling
Site-Specific (Project Area) Collision Risk Habitat Displacement Avoidance				
Cumulative Impacts				

Need Separate Approaches to Pre-, During, Post-Construction Monitoring

*Use “Adaptive Monitoring” to adjust monitoring depending on data results

Numerous method and techniques are needed

Monitoring "Add-ons" based on further discussion

- Include bats (regional and specific), acoustics
- Site specific- beach survey observations, acoustic detection- migration, thermal imaging
- ID question to answer before developing monitoring programs
- Technique for physical data collection (include satellite imagery)
- Use observers on platforms of opportunity in conjunction with radar
- Look for opportunities to collect other data
- Conical beam radar, SODAR*

*Which measures vertical turbulence and wind speed.